

Emerging Waste Issues Schools

This fact sheet addresses environmental stewardship policies and practices used in **schools** abroad to address waste concerns, especially with respect to **resource conservation and reuse**. The fact sheet also identifies ways in which **safe chemical management** concepts that prevent waste increasingly are being accepted in schools, for example through the influence of **green chemistry**. The United States is a world leader in many innovative initiatives associated with children's health and schools, e.g., those related to chemical clean-outs and the application of vendor servicing concepts to schools environments. The examples described below and associated web links provide OSWER staff and managers both with summary information about the kinds of activities that also are taking place in some countries abroad and links to additional information about these activities.

Resource Conservation and Reuse Initiatives

Australia . Waste management strategies have been produced by all levels of government in Australia. The *No Waste 2010 Management Strategy* adopted by Australia's Capital Territory in Canberra exemplifies the strong emphasis placed on programs to encourage resource conservation and reuse as alternatives to landfilling in Australia - see <http://www.nowaste.act.gov.au>. The strategy established a framework for sustainable resource management and identifies actions, including school-related initiatives such as **Waste Wise Schools** (an initiative distinct from US EPA's Waste Wise Program), that are needed to achieve the goal of a waste-free society. The Waste Wise Schools initiative, which is co-sponsored by governments across Australia and non-profit organizations including the Gould League, EcoRecycle Victoria, and other, helps reduce waste, reduce costs, and develop a "waste-wise" ethic in schools. This action-based program includes awards and an accreditation scheme and emphasizes composting practices. In Victoria alone, since 1998 over 875 schools have participated in the initiative, an estimated 8650 tons of waste have been diverted from landfills, and participating schools each have saved between \$300 and \$6500 per year. On the Gold Coast of Australia, schools have adopted the **Wipe Out Waste Challenge** to minimize waste through activities such as litter plans, waste audits, recycling programs, and composting. Since 2000, over 55,000 students have participated in Wipe Out Waste activities: (<http://www.envirocom.com.au/gc waste/home.htm>).

Canada. Activities by the Clean Nova Scotia Foundation in Halifax to promote recycling and composting in schools are part of the **Clean Nova Scotia Campaign** - see <http://www.clean.ns.ca>. An annual Waste Reduction Week also takes place to promote the Campaign. Since 2001, the Campaign has served to engage and inform Canadians through the theme of "Too Good to Waste" and has focused on topics such as school waste audits, school recycling programs, and school composting. Other Regional initiatives exist. At a national level, since 1995 the community-funding program **EcoAction** has helped finance school projects across Canada that

support environmental stewardship goals, e.g., by protecting, rehabilitating, or enhancing the school environment- see http://www.ec.gc.ca/ecoaction/regional_sites_e.html.

Ireland. In Ireland, AnTaisce, the country's largest independent environmental organization, along with several private sector partners, has co-sponsored **Green Schools** (<http://www.antisce.org/projects/greenschools.html>). Green Schools is an initiative of the international Foundation for Environmental Education. Currently, nearly 1675 Irish primary and secondary schools participate in the program. Primary goals of the initiative include waste minimization and energy efficiency. Each "Green school" undertakes an environmental review, develops an action plan, and evaluates its activities.

New Zealand. Like Australia, New Zealand emphasizes "active" environmental stewardship programs in the country's schools. The **Waste Wise Organic Recycling Programme** provides schools with "closed loop" vermicomposting systems to reuse lunchroom and other organic wastes: <http://www.wastewise.org.nz>. The program receives support from the New Zealand Ministry's Sustainable Management Fund. The **Enviroschools Programme**, which models sustainability in all aspects of school life to reinforce environmental education and provide opportunities for student action, emphasizes the importance of recycling and composting: <http://www.enviroschools.org.nz/>.

United Kingdom. WRAP (the **Waste & Resources Action Programme**), was created in 2001 as a not-for-profit company to promote sustainable waste management solutions in response to the UK government's Waste Strategy 2000 and subsequent policies: see http://www.wrap.org.uk/at_school.asp . WRAP encourages the development of markets for recycled wastes and works with **School Waste Action Clubs** organized by **Waste Watch** in eight locations across England (see <http://www.wastewatch.org.uk/education/swacs.aspx>) to promote waste reduction, reuse, and recycling. Likewise, the **RecycleNow** campaign, launched in September 2004, includes schools - see http://www.recyclenow.com/at_school/index.html. **Waste Awareness Wales** (<http://www.wasteawarenesswales.org.uk/>), **Waste Aware Scotland** (<http://www.wascot.org.uk/>), and **Recycle for London** (<http://recycleforlondon.com/index.cfm>) are major partners in the campaign.

Safe Chemicals Management

The success of innovative practices that encourage safe chemicals management in schools - such as vendor servicing and chemical management services (for a description of these approaches, see http://www.chemicalstrategies.org/cms_defined.htm) - rely upon the prospect of economic efficiencies in business practice and new ways of thinking about toxic or hazardous substances and their life-cycles that have been influenced by green chemistry concepts worldwide. In schools, the substances include laboratory chemicals, cleaning supplies, and pesticides; their safe use and disposal in a school setting increasingly are understood to be a concern both in the United States and countries abroad. For example, an Australian organization called **Chemical Awareness in Schools** (see <http://www.netspeed.com.au/rdi/cas/mainpg.html>) is devoted to non-

toxic alternatives to cleaning, maintenance, and pest control products used in schools.

Purchasing for Sustainability: Guidance for Higher Education Institutions, produced by Forum for the Future in 2003 (see http://www.forumforthefuture.org.uk/aboutus/HEPS_page1509.aspx), exemplifies a connection between the themes of safe schools and sustainability in England.

Strictly defined, **green chemistry** promotes innovative chemical technologies that reduce or eliminate the use or generation of hazardous substances in the design, manufacture, and use of chemical products. In a larger sense, however, green chemistry exemplifies the new ways of thinking about safer chemicals management and disposal that have influenced policies and practices both in the United States and abroad. A critical goal of green chemistry is pollution prevention. In the US, the Pollution Prevention Act of 1999 represents an important milestone in the development of this thinking. Most green chemistry initiatives, both in the United States and abroad, focus on higher education.

That green chemistry thinking is important round the world is evidenced by the following examples. The American Chemistry Council reports that 23 international chapters of its **Green Chemistry Institute** are either operating or in the process of formation. The Institute promotes national and international government-industry collaboration with universities and national laboratories: <http://www.chemistry.org/portal/a/c/s/1/>. For example, the **Green Chemistry Network** at the University of York in England is charged with promoting awareness and facilitating education associated with green chemistry in schools, academia, and industry - see <http://www.chemsoc.org/networks/gcn/>. In Australia, the **Centre for Green Chemistry** at Monash University - see <http://www.chem.monash.edu.au/green-chem/> - conducts a schools program to focus attention on ways green chemistry can address environmental concerns.

EPA Resources

See the following EPA web sites for some perspective on the full range of environmental issues associated with waste concerns and schools that are addressed by EPA:

- US EPA - Healthy School Environments - <http://cfpub.epa.gov/schools/index.cfm>
- US EPA/OSW/RCC - Schools Chemical Cleanout Campaign(SC3) - <http://www.epa.gov/epaoswer/osw/conserved/clusters/schools/index.htm>
- US EPA - Green Chemistry - <http://www.epa.gov/greenchemistry/index.html>
- US EPA - Teaching Center - <http://www.epa.gov/teachers/>
- US EPA - Student Center - <http://www.epa.gov/students/>

OFFICE OF SOLID WASTE CONTACTS

Chemicals in schools:	Kristina Meson 308-8488
Chemicals purchasing for schools:	Priscilla Halloran: 308-8802
Environmental education:	Judi Kane: 308-7893